BULLETIN OF

The California Polytechnic School

A TECHNICAL INSTITUTE FOR
AGRICULTURE AND INDUSTRY

Administered through the State Department of Education
Hon. Vierling Kersey, Director of Education

The California Polytechnic School is established by the State of California to provide strictly vocational training in the fields of agriculture and industry.

JULY 1, 1932

San Luis Obispo, California

Accepted for mailing at special rate of postage provided for in Section 1103. Act of October 3. 1917. Authorized August 9, 1918. Entered at the Post Office at San Luis Obispo as second class matter.

Printed at the California Polytechnic Print Shop

FACULTY

ADMINISTRATION

Ben R. Crandall, B. S., B. Ped., M. A., D. Ped., Ph. D., President.
Margaret L. Hansen, Registrar and Secretary.
Lynn Broughton, Accountant.
L. E. McFarland, B. S., Supt. Farm, Buildings and Grounds.
Dagmar B. Goold, Stenographer.

INSTRUCTIONAL STAFF

Supervisory

C. O. McCorkle, B. S., Director of Agricultural Education.
C. E. Knott, B. S., M. S., Director of Industrial Education.
Capt. J. C. Deuel, Supervisor of Library, Study Hall, and Asst. Phys. Ed.
Corlyn Deatherage, Clerical Asst. and Student Project Records, Agricultural Ed.
Angela Ghirlanda, Bureau of Agricultural Education.
Gladys L. Banks, Stenographer, Industrial Education.

Agriculture

Vard Shepherd, B. S., Meat Animals.
George Drumm, B. S., M. S., Dairy.
Richard Leach, B. S., Poultry.
Wilbur Howes, B. S., Horticulture, Landscaping.
A. H. Hollenberg, B. S., Agricultural Mechanics.
Carl G. Beck, B. S., Farm Business Management.
George P. Couper, Farm English and Publications.
J. I. Thompson, B. S., M. S., Agriculture Coordinator.

Industry

H. G. Warren, Aeronautics.
M. C. Martinsen, Aeronautics.
G. W. Wilder, Ph. D., Electricity.
J. J. Hyer, B. S., Electric Shop.
H. C. Figge, Welding and Mechanics.
John W. Stout, B. S., Drafting—Mechanical and Electrical.
Louis Crawford, B. S., Drafting—Architectural.
J. L. Cushingham, Machine Shop.
A. P. Agosti, B. S., M. S., Science, Physical Education, Athletics.
John O. Ball, A. B., M. A., Science and Mathematics.
Margaret H. Chase, A. B., M. A., English and History.
————————, Industry Coordinator.

Related Instruction

B. R. Preuss, Phar. D., Printing.
Hope A. Jordan, B. S., Mathematics, Science, and Secretary Student Affairs.
Walter Albrethsen, B. S., M. S. (C. E.), Engineering.
Merritt B. Smith, Band, Orchestra, Glee Club.

SCHOOL CALENDAR FOR 1932-33

First Semester

Sept. 1, Thursday—Dormitories and Dining Hall open.
Sept. 1, 2, and 3, Thursday, Friday, and Saturday—Registration of students 9 a. m. to 12 m.; 1 p. m. to 4 p. m.
Sept. 3, Saturday—Special assembly for new students.
Sept. 5, Monday—Class work begins.
Sept. 9, Friday—Admission Day, holiday.
Oct. 22, Saturday—Homecoming.
Nov. 11, Friday—Armistice Day.
Nov. 23 to 28, Wednesday noon to Sunday night—Thanksgiving recess.
Dec. 23 to Jan. 3—Christmas vacation.
Jan. 3, Tuesday—Class work is resumed.
Jan. 20, Friday—End of first semester.

Second Semester

Jan. 20, Friday—Registration of new students.
Jan. 23, Monday—Class work begins.
April 7 to 17—Spring vacation.
May 1, Monday—Annual School Festival.
May 31, Wednesday—Commencement.
June 2, Friday—School closes.

The California Polytechnic School

A TECHNICAL INSTITUTE FOR AGRICULTURE AND INDUSTRY

The plan and program of this school are unlike any to be found in the West. The purposes it is designed to serve have been selected from the actual agricultural and industrial needs of California.

Instruction is to be on two levels of two years each covering a four-year period. The trade level provides a more general preparation for employment. The technical institute type is designed to prepare students for employment in technical positions of a semi-professional nature.

The California Polytechnic School will enroll only male students who have completed the tenth grade or who can give evidence of equivalent educational preparation or acceptable occupational experience and maturity, who shall be deemed capable of profiting by the types of instruction offered. The enrollment shall not exceed 125 in the field of agriculture and 225 in the industrial field. Applications for admission in excess of the maximum number of 350 will be placed on file and shall be considered in order of submission in the event of student withdrawals.

OFFERINGS FOR 1932-33

In *Agriculture* separate curricula are offered on the trade and technical levels in the fields of Dairying, Poultry, Horticulture and Meat Animals. Each curriculum provides definite vocational training preparatory to employment on one of the two specified levels in the fields enumerated. Instruction in related subjects is provided as a part of each curriculum.

Separate curricula are offered in *Industry* on the trade and technical levels in the fields of Aeronautics, Electricity, Architectural and Mechanical Drafting and Machine Shop Practice. Each curriculum provides definite vocational training preparatory to employment in type positions within each of the fields specified.

Instruction will in all cases be individualized for the purpose of affording each student opportunity to prepare himself for occupational employment in accordance with his individual ability and accomplishment.

As an efficient means of securing employment for students who have acquired satisfactory standards of skill in trade and technical ability a coordinator is employed in the industrial field and another coordinator in agriculture.

A FULL SCHEDULE OF STUDENT ACTIVITIES

In connection with physical education, a full schedule of athletics contests, from football to golf, is maintained with surrounding Junior Colleges. A large, well-equipped gymnasium provides splendid facilities for all indoor games. The "letter men" have a fine organization called the "Block P Club."

Every student is urged to take an active part in campus organizations. A wide variety of clubs and activities are maintained to help out in the social life of the student body and maintain the *esprit de corps* of the several groups. One of them is the student body organization, which conducts the athletics contests, school paper and annual, and student body parties and dances. The student body fee is $7. Other organizations are the Future Farmers of America organization for agriculture students, the Polyphase and Aeronautics clubs for industry students, and the Y. M. C. A. and dormitory clubs. Dues in these organizations are required only from those who benefit or participate. An excellent school band, orchestra and glee club are maintained, offering music experience for any student desiring to take part.

GENERAL INFORMATION

Living Arrangements. Comfortable and attractive living facilities are provided for students on the campus. The dormitories and the cafeteria are conducted on a non-profit basis so that students receive large returns in exchange for their expenditures for room and board. A free clinic for dormitory students has recently been established. Students have access to the services of a doctor on the campus four times a week free of charge. If a student is so ill that he requires special treatments in a doctor's office he is able to obtain these at a rate lower than the usual one.

EXPENSES FOR INSTRUCTION

*Text books and school supplies for immediate needs from $2.50 to	$15.00
*Gymnasium locker privileges, including 50c refundable towel deposit	2.50
*Shop and breakage deposit, refunded at the end of year except for cause	5.00
Gymnasium outfit, about	4.50
Mechanical drawing outfit if needed, about	16.00
Machine shop equipment if needed, about	12.00
Coveralls	2.25
Additional school supplies, if needed, $5.00 to	10.00
Total instructional expenses will vary from $15.00 to	$67.25

*These expenses will be incurred by all students. Other items will be required if needed in the courses.

EXPENSES FOR ACCOMMODATIONS

Room reservation fee. This should be sent well in advance. It will be refunded if the student decides not to attend and makes application for refund by August 15, or at the end of the year if the student remains in residence throughout	$10.00
Room rent payable one month in advance	7.50
Board per month, payable one month in advance and including free medical clinic service	27.00
Annual cafeterial deposit, refunded as a credit when the last month's board bill is due	30.00

The above expenses for accommodations are all payable on or before registration. The room registration and cafeteria deposits may be refunded as a credit at the end of the year. The room and board bills for the balance of the year are $34.50 per month, but a $1.50 discount is allowed each month the bill is paid in advance on or before the fifth of the month.

Total for all living accommodations, $297 to $309.50

PERSONAL EXPENSES

Students rooming in the dormitories supply their own sheets, towels, pillow cases, blankets, toilet articles, drapes and a four foot rug. A single bed with mattress and pillows, a dresser, a study table and chairs are part of the room equipment. Sheets, towels and pillow cases are laundered by the school without charge. The cost of personal laundry should not exceed $2.50 a month. It may be charged to board and room accounts and paid monthly. Dry cleaning is extra and depends on the need of the student. The student will need to estimate his personal expenses for extra clothing, incidentals, and laundry. A fountain pen is a valuable addition to his equipment. Students should obtain information of the amounts due from the business office, and send it home as bills are not mailed out. All checks should be made payable to The California Polytechnic School and should reach the office the first of each month.

Self Support. While there is some opportunity for students in agriculture to earn money for self support it is not advisable for a student to enter without funds sufficient to cover board and room expenses for four or five months in addition to the initial outlay referred to under the heading "Expenses." As far as possible students are employed on campus work and the placement agency makes contact between students who need work and any openings in the town.

DIVISION OF AGRICULTURAL EDUCATION

The agriculture courses at the California Polytechnic school are patterned after the state plan for vocational agriculture, as set up by the bureau of agricultural education. The objective of the California Polytechnic courses is to prepare the student to enter a farming vocation, either as owner, manager or foreman, or as a skilled agricultural worker.

The courses are of a technical nature and advancement is based on ability and accomplishment rather than length of time. Work is grouped into lower and upper divisions, the lower division for pupils who have had little or no agricultural experience or training; and the upper division for those of more advanced training or who have successfully completed the lower division work at the California Polytechnic school.

LOWER DIVISION WORK

Lower division work is general; upper division work is specialized and individual. The purposes of the lower division are to develop an interest in agriculture, provide the student with experience upon which he can select the phase of agriculture in which he is most interested, and develop a basis for understanding the problems of the industry as a whole.

The class instruction deals with the relative importance of major farming enterprises. It provides study in selection and management of livestock, poultry, fruit and field crops. Regular class time is devoted to supervised instruction and practice in doing the common farm jobs involved in carrying on these enterprises. Additional practical experience is gained by pupils who find part-time employment with the general farm work, the herds and flocks, the poultry unit and the management of the fruit and field crops.

UPPER DIVISION WORK

The first year of the upper division is known as the project year. Instruction is based on the study required and the experience gained in planning, conducting and analyzing the student's self-owned project in meat animals, dairying, poultry or field crops. The student will normally carry one or more major projects, with additional minor projects in related enterprises.

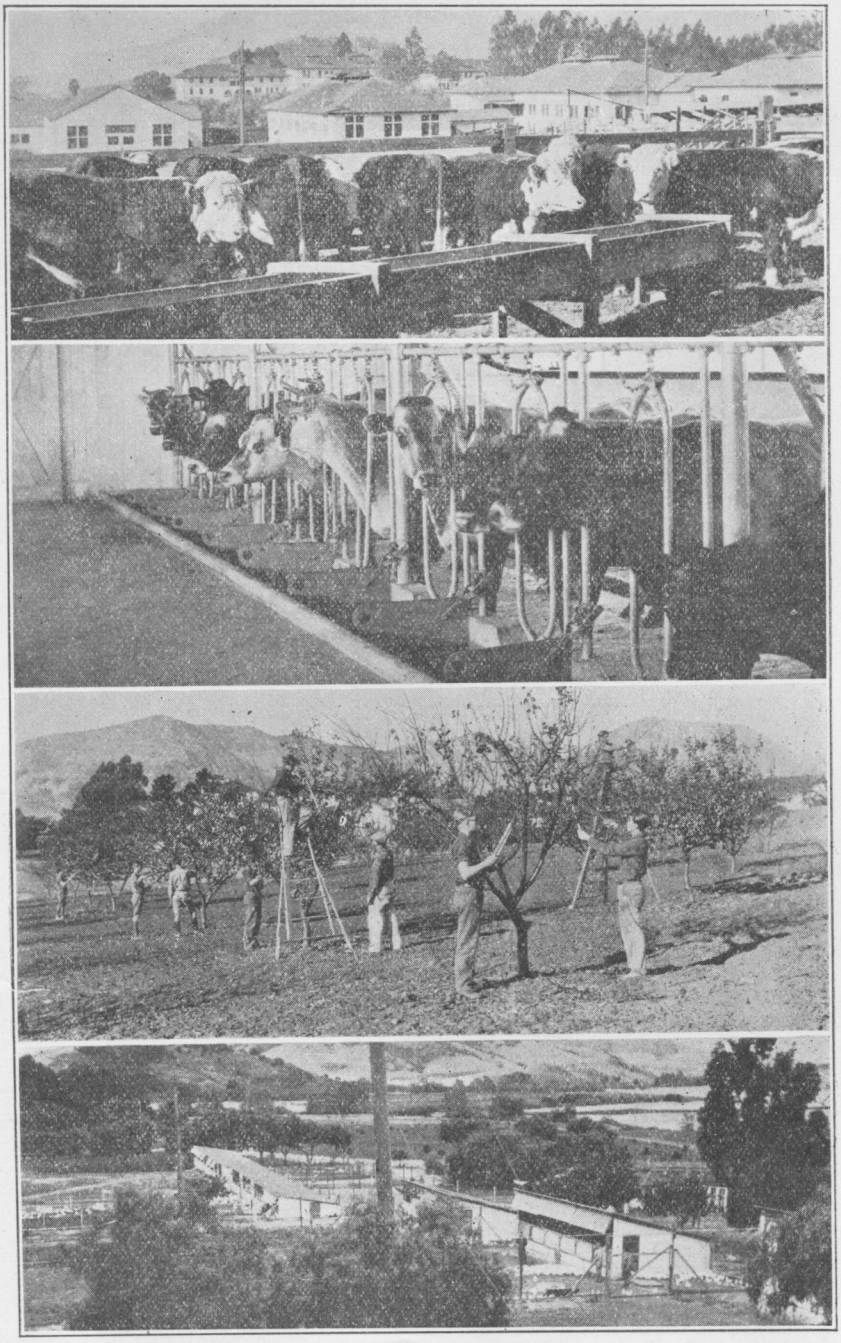
The second year of the upper division is known as the advanced supervised practice year. In this period, the student takes over the accounting and management of the school flocks, herds and crop units. Accurate cost and production records are kept and herd record-keeping taught. Upon completion of the work, the books become the property of the student as a basis for setting up farm accounts and records of his own.

FARM EXPERIENCE GIVEN

The third year of the upper division is known as the supervised commercial farm practice year. The student will work under supervision on a typical meat animal, dairying, poultry, horticulture or field crops farm. Recommendation of the farm owner or manager will be a part of the certificate of accomplishment.

Related courses in Farm English, Economic History, and Farm Business Management are given during the year of lower division work and the first two years of the upper division. The subject matter is related to the major interest of the student. And, at the completion of the course, a competent coordinator will help to find employment for such students as do not plan to buy, rent or operate their own farming enterprise.

Should the student desire to terminate his course before completing the full curricula, an effort will be made to place him in a position comparable with the abilities and training represented by the completed units of work.



Illustrating the four major courses in agricultural education.

MEAT ANIMALS COURSES

Lower Division Work

The first year of work for a student preparing for meat animals production is identical with the courses for all lower division agriculture students. General instruction is given in the selection and management of livestock, poultry, related field crops and horticulture, with practice in carrying on the related farm jobs. Entering students with little or no agricultural education or farm experience will be given a thorough, practical background of the agricultural industry and practices through the curricula of the lower division unit. First-year classmen may enter all student activities. The course of study is here given.

Hours per week—	Cl.*	S.P.*
Agriculture 1	5	4
Agricultural Science	2	2
Agricultural Mechanics I		6
Farm English I	3	
Farm Business Management I	2	2
Physical Education	5	
Study Hall		4
Total		35

Supervised Project Year—Upper Division

The second year of work, the first year in the upper division, is known as the supervised project year and brings the student into direct contact with the particular meat animals enterprises in which he is interested. In addition to carrying his own project in meat animals, the major course of study is Meat Animals II, based on project management and analysis. It includes the financing, labor requirements, housing and equipment, diseases and parasites in relation to the project, marketing, record keeping, selection, feeding, breeding and management of beef cattle, sheep, hogs or horses; and growing of related crops. The course is here given.

Hours per week—	Cl.	S.P.
Meat Animals II	5	4
Farm English II	3	
Farm Business Management II	5	
Agricultural Mechanics II		6
Economic Hist. and Govt.	3	
Physical Education	5	
Study Hall		4
Total		35

Advanced Supervised Practice Year—Upper Division

The third year of work is known as the advanced supervised practice year and centers around herd management and farm business management. Students during this year keep all records on the school meat animals units, as well as herd record books. These books are the property of the student on completion of the work, to serve as the basis for his own farm enterprise. The time allotted for special meat animals problems provides a flexibility of study, in that the student may devote this period each day to the herd management, marketing or feeding problems in which he is most interested. The course of study is here given.

Hours per week—	Cl.	S.P.
Meat Animals III	5	4
Farm Business Managemt. III	4	2
Agricultural Mechanics III		6
Special Meat Animals Problms.	5	
Physical Education	5	
Study Hall		4
Total		35

Supervised Commercial Farm Practice Year—Upper Division

The fourth year of work is known as the supervised commercial farm practice year. The student will be placed on a typical meat animals farm where he will carry on commercial farm practice work under the supervision of the agriculture department placement man and the ranch owner or foreman. No hours of supervision or instruction are listed for this year of work. The recommendation of the ranch owner or foreman will accompany the certificate of accomplishment given on completion of the meat animals course.

*Cl.—Class hours. S.P.—Supervised Practice hours.

DAIRYING COURSES

Lower Division Work

The first year of work for a student preparing for the dairying courses is the same as that for all lower division agriculture students. The instruction involves general training in the selection and management of livestock, poultry, related field crops and horticulture enterprises, with practice in carrying on the related farm jobs. All beginning students with little or no agricultural training or dairy experience will be enrolled in the lower division group for a practical background of agriculture as a field of endeavor, and to form a basis for the selection of the future major interest. The course is here given.

Hours per week—	Cl.*	S.P.*
Agriculture I	5	4
Agricultural Science	2	2
Agricultural Mechanics I		6
Farm English I	3	
Farm Business Management II..	2	2
Physical Education	5	
Study Hall		4
Total		35

Supervised Project Year—Upper Division

The second year of work, the first in the upper division, is known as the supervised project year. During this period the student will carry a supervised project in raising dairy cattle or milk production, with the major course based on the study and practical skill required to complete the project. Minor productive projects are carried in growing crops commonly used as dairy feeds. Abilities are developed in financing, housing, marketing, record keeping, selecting, feeding, breeding and disease parasite control in relation to the project, and to some extent, the school dairy unit. Related subjects coordinate with the majors. The courses are listed.

Hours per week—	Cl.	S.P.
Dairying II	5	4
Farm English II	3	
Farm Business Managemt. II....	5	
Agricultural Mechanics II		6
Economic Hist. and Govt.	3	
Physical Education	5	
Study Hall		4
Total		35

Advanced Supervised Practice Year—Upper Division

The third year of work is known as the advanced supervised practice year and centers around herd management and milk production. Students during this year keep all records on the school dairy unit, including herd records, cost accounts and production statistics. These records become the property of the student on completion of the work, so that he may use them in setting up proper accounting methods for his own dairy enterprise. The time devoted to Special Dairying problems may be used by the students in individual work on milk production, herd management and feeding problems, and care and handling of the milk. The course of study for the year is here given.

Hours per week—	Cl.	S.P.
Dairying III	5	4
Farm Business Managemt. III..	4	2
Agricultural Mechanics III		6
Special Dairying Problems	5	
Physical Education	5	
Study Hall		4
Total		35

Supervised Commercial Farm Practice Year—Upper Division

The fourth year of work is known as the supervised commercial dairy practice year. The student will be placed on a modern California dairy where he will carry on commercial operations under the supervision of the California Polytechnic agriculture department placement man and the dairy owner or foreman. No specific hours are listed for this year of work, but will be arranged to suit the individual. The recommendation of the dairy owner or foreman will be helpful in obtaining the certificate of accomplishment given on completion of the dairying course.

*Cl.—Class hours. S.P.—Supervised Practice hours.

POULTRY COURSES

Lower Division Work

The first year of work for a student preparing for the poultry courses is of a general nature, identical with that for all lower division agriculture students. The instruction includes general training, the selection and management of livestock, poultry, related field crops and horticulture units, with practice in carrying on the related farm work. Beginning students with little or no agricultural education or poultry project or plant experience will be enrolled in this unit and will be given a broad picture of agriculture as a background for upper division work. The course of study is here given.

Hours per week—	Cl.*	S.P.*
Agriculture I	5	4
Agricultural Science	2	2
Agricultural Mechanics I		6
Farm English I	3	
Farm Business Management II	2	2
Physical Education	5	
Study Hall		4
Total		35

Supervised Project Year—Upper Division

The second year of work, the first in the upper division, is the supervised project year. During this period, the poultry student will carry on a supervised enterprise in incubating, brooding or care of mature birds. The course of study includes incubating, brooding, feeding for meat and egg production, record keeping, housing and prevention and control of common poultry diseases. Study is based on the student's project of a commercially productive nature, or the school unit. All student enterprises are of sufficient scope to form a real test of the ability of the operator to handle a typical poultry endeavor. The course is here given.

Hours per week—	Cl.	S.P.
Poultry II	5	4
Farm English II	3	
Farm Business Managemt. II	5	
Agricultural Mechanics II		6
Economic Hist. and Govt	3	
Physical Education	5	
Study Hall		4
Total		35

Advanced Supervised Practice Year—Upper Division

The third year of work is known as the advanced supervised practice year. The keynote of the course of study is the observing and assisting in the management of the school poultry plant. The major course includes practice and study of breeding, incubating, housing, growing young stock, marketing and disease prevention and control. The time allotted to Special Poultry problems provides individual work in keeping trapnest, pedigree and cost and efficiency records on the various units of the school poultry plant. The related agricultural mechanics course includes practice in the construction of typical poultry buildings and equipment. The course outline is here given.

Hours per week—	Cl.	S.P.
Poultry III	5	4
Farm Business Managemt. III	4	2
Agricultural Mechanics III		6
Special Poultry Problems	5	
Physical Education	5	
Study Hall		4
Total		35

Supervised Commercial Farm Practice Year—Upper Division

The fourth year of work is known as the supervised commercial poultry plant practice year. The student will be placed on a modern California poultry farm where he will carry on commercial operations under the supervision of the school agriculture department placement man and the poultry plant owner or manager. Hours of work and supervision are to be arranged to meet the individual cases. The recommendation of the poultry plant owner or manager will be helpful in obtaining the certificate of accomplishment given on completion of the poultry course.

*Cl.—Class hours. S.P.—Supervised Practice hours.

HORTICULTURE COURSES

Lower Division Work

The first year of work for students training for horticulture or field crops production is the same as for all students in lower division agriculture. General instruction is given in the selection and management of livestock, poultry, field crops and horticulture, with practice in carrying on the related farm jobs. Entering students with little or no agricultural education, or greenhouse or farm experience, will be given a general background of agriculture as an industry through the lower division courses. The curricula for the first-year horticulture and field crops students is here given.

Hours per week—	Cl.*	S.P.*
Agriculture I	5	4
Agricultural Science	2	2
Agricultural Mechanics I		6
Farm English I	3	
Farm Business Management II	2	2
Physical Education	5	
Study Hall		4
Total		35

Supervised Project Year—Upper Division

The second year of work, the first in the upper division, is the supervised project year. During this period, the student carries commercially productive projects in propagating and growing vegetable crop plants and ornamentals. Instruction in truck crops includes a study of vegetable varieties, growing and preparation for market, disease prevention and control, etc. Instruction in landscaping includes greenhouse practice, plant propagation and planning and planting of home grounds. The California Polytechnic school campus provides opportunity for landscape design and practice on plots of a scope comparable to a commercial enterprise.

Hours per week—	Cl.	S.P.
Horticulture II	5	4
Farm English II	3	
Farm Business Managemt. II	5	
Agricultural Mechanics II		6
Economic Hist. and Govt.	3	
Physical Education	5	
Study Hall		4
Total		35

Advanced Supervised Practice Year—Upper Division

The third year of work in the horticulture department is known as the advanced supervised practice year. The student during this period will keep complete records of the cost and production of the school field crop and horticulture units. Instruction is also given in such phases of orchard management as pruning, grafting, irrigation, spraying and thinning. Field trips to surrounding areas provide additional opportunity to observe and participate in seasonal orchard practices of the commercial horticulturist; and to study methods of growing and handling field crops in extensive plantings.

Hours per week—	Cl.	S.P.
Horticulture III	5	4
Farm Business Managemt. III	4	2
Agricultural Mechanics III		6
Special Horticulture Problems	5	
Physical Education	5	
Study Hall		4
Total		35

Supervised Commercial Farm Practice Year—Upper Division

The fourth year of work is known as the supervised commercial farm practice period. During this year, the horticulture student will be placed on a high-quality California nursery, horticulture unit or field crops tract to carry on commercial practices under the supervision of the agriculture department's placement man and the owner or manager of the commercial unit. Recommendations of the latter will be helpful in obtaining the certificate of accomplishment given at the completion of the work. Hours of work and supervision will be arranged to fit individual conditions.

*Cl.—Class hours. S.P.—Supervised Practice hours.

DIVISION OF INDUSTRIAL EDUCATION

The objective of the industrial courses is successful placement of the student in industry. This is accomplished first by training the student for a particular place in industry and then locating the job for the student. A coordinator whose duty is to contact industrial concerns and place the students in the job for which they are fitted, is a member of the staff. This placement is accomplished after a careful study of each individual case, every effort being made to see that the student is placed in a job for which he is fitted and one in which he can advance to the full extent of his ability. The coordinator's contact with the industry assists the school in giving the student the proper training to fit him for the job when he has finished his course.

COURSES

The courses are following the usual arrangement for the Smith-Hughes vocational courses, allowing a half-day for supervised training and a half-day for related class work. The first two years are of the trade level and the last two years are of the technical institute level. The student who has completed the first two years of high school work or who has the average development of a seventeen-year-old boy is eligible for admission to the industrial courses. It is recommended that students complete the whole four-year course, obtaining the trade level training and also the more advanced technical training. However, the students who enter after completion of the high school are able to cover the technical course in from two to three years, the time depending upon the amount of previous training he has had along the chosen line.

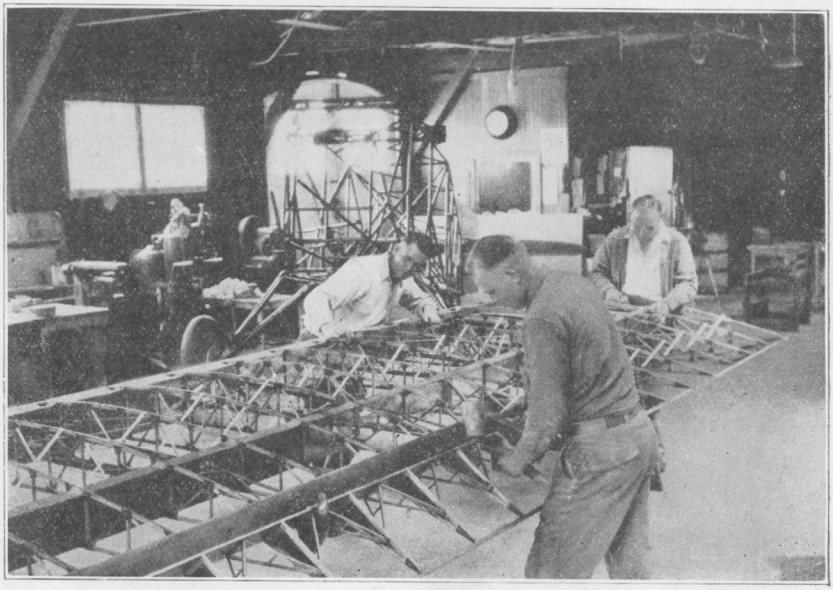
INDUSTRIAL

The industrial courses offered are listed under three general heads—aeronautics, drafting, and electricity. The aeronautics is divided into two branches, the engine mechanic and the airplane mechanic. A student may specialize on either of these two but it is recommended that he take the work for both. The electrical work is divided into five different heads—inside wireman, armature winder and motor repair man, industrial control technician, communications technician, and public service corporation employee. For the inside wireman it is recommended that the student be placed in employment at the end of the second year, while with the other four branches it is recommended that he remain in school three or four years. The drafting course offers two general branches—the mechanical draftsman and the architectural draftsman. There is to be no graduation from the industrial courses but instead a certificate of completion of the course will be given the student after he has completed eight months of successful employment in his chosen vocation.

RELATED

Aside from the purely trade or technical training the student receives related training in English, mathematics, history, and science. These related subjects are as nearly as possible connected to the line of work in which the student is specializing. For instance, the course of mathematics for the electrical students deals directly with the mathematics required in the electrical industry. The history course covers the economic and industrial history of the United States as it is related to the working man. The science is confined to the essentials of chemistry and physics and the instruction will apply them directly to the trade in which the student is interested. The objective of the English course is to give the student a reading, writing, and talking command of the English language to assist him to advance in his chosen vocation. Special emphasis is placed on assisting the student to express his thoughts in an accurate and pleasing manner, both in speech and writing.

Students testing equipment in the Electrical Department.



Construction Work on an Airplane Wing.

AERONAUTICS

First Year—Trade Level

The aeronautics course is arranged assuming that the student is to work for both the engine mechanics and airplane mechanics licenses. If he chooses only one of these, however, he may take his government examination for the license at the end of the third year. The student may be accredited with previous experience after passing a test. All work is on active licensed equipment and must be airworthy. The shop work on engines will deal primarily with carburetors, ignition systems and auxiliaries. The class work is a general study of aircraft engines. Airplane Construction I consists of welding practice as applied to airplane construction and repair, with class work on the Department of Commerce regulations.

Hours per week—	Cl.*	S.P.*
Airplane Construction I	2	6
Airplane Engines I	3	6
Aero Drafting		3
English	5	
Science	3	2
Mathematics	5	
Physical Education	5	
Total		40

Second Year—Trade Level

The construction class deals with the wooden construction of the airplane. In the shop ribs are made and spars constructed or repaired. In the engines work the student begins overhauling the older type of airplane engine. The engine is disassembled, checked, reassembled and tested. Upon completion of the second year the student may enter employment as a good helper working under a licensed mechanic. All of the time spent in this shop will count toward his license since it is a government-approved repair station.

Hours per week—	Cl.	S.P.
Airplane Construction II	2	6
Airplane Engines II	3	6
Machine Work		3
History	5	
Science	3	2
Physical Education	5	
Total		35

First Year—Industrial Level

In the third year the class work in airplane construction deals largely with the materials of construction, their uses, and types of construction. In the shop the students assemble and finish the woodwork on complete wings, and repair fuselages and landing gears. The engine work includes both top and major overhauls, and bearing fitting. After an overhaul the engine is tested to prove that the work has been properly done. If the student has specialized either on engines or construction, he may take the examination for the mechanics license on completing this year.

Hours per week—	Cl.	S.P.
Airplane Construction III	2	6
Airplane Engines III	3	9
Aerodynamics	3	
Science	3	4
Physical Education	5	
Total		35

Second Year—Industrial Level

The fourth year of construction includes the finishing of the airplane after an overhaul in the shop. The airplane is covered, doped, painted, assembled and rigged. The engines work is a continuation of the overhauling and testing of engines. The testing is done on the dynamometer, power curves plotted, and fuel and oil consumption tests run. The student should now be qualified to pass the government examinations for both airplane mechanic and engine mechanic, thus leaving the school as a licensed mechanic.

Hours per week—	Cl.	S.P.
Airplane Construction IV	2	6
Airplane Engines IV	3	6
Aero Drafting		4
Meteorology, Navig., and Instr.	2	
Science	3	4
Physical Education	5	
Total		35

*Cl.—Class hours. S.P.—Supervised Practice hours.

ELECTRICITY

First Year—Trade Level

In the electrical course the student is allowed to specialize in any one of five branches,—inside wireman, armature winder and motor repair man, industrial control technician, communications technician, and public service corporation man. The first year is a general or "finding" course and covers about the same work for all of the branches. During this first year the student chooses the branch he wishes to follow. In both the class and the shop the student is given the fundamentals of electric magnetism, simple circuits, and electrical equipment as applied to the five branches mentioned above, with special emphasis upon the wiring for lights and power. On completion of this year the student may enter employment with an electrical contractor as an electrician's helper.

Hours per week—	Cl.*	S.P.*
Electricity	5	12
Electrical Drafting		3
Mathematics	5	
English	5	
Science	3	2
Physical Education	5	
Total		40

Second Year—Trade Level

By the beginning of the second year each student should have chosen some branch of the electrical field for specialization. The class work and the shop and experimental work is dealing directly with the problems needed in the student's chosen field. However, at all times during this year it is kept in mind that the fundamentals of electricity come first and the student is led to make application of these fundamentals to his branch of the electrical work. Even at the end of this year the student may shift from one branch to another without serious loss of time. On completion of this year the student may enter employment as an electrician's helper in his chosen line.

Hours per week—	Cl.	S.P.
Electricity	5	12
Electrical Drafting		3
History	5	
Science	3	2
Physical Education	5	
Total		35

First Year—Technical Level

The third year of the electrical course is given over to specialization in the student's chosen field. Problems directly related to his work are discussed both in the shop and in the class. The shop work is largely for the purpose of giving the student the proper skill to go into the industry as a workman, and, as far as possible, is placed on a commercial basis. Opportunity is given the student to round out his training; if he needs more English, mathematics or shop work outside of the electrical field, it is given to him this year. In most of the branches the student may now enter employment on a man's job.

Hours per week—	Cl.	S.P.
Specialized Electrical training..	5	15
Electrical Drafting or English..		3
Science	3	4
Physical Education	5	
Total		35

Second Year—Technical Level

The fourth year of the electrical course is a continuation of the third year. It is planned that the student will be ready for placement during this year and in most cases will complete this year on a job. By contact with employers the school determines the specific type of training needed by the student for a particular job and when the student is sufficiently trained he is placed. The student can now enter the electrical work in a man's job and his advancement will depend upon his ability and industry.

Hours per week—	Cl.	S.P.
Specialized Electrical training..	5	15
Electrical Drafting		3
Science	3	4
Physical Education	5	
Total		35

*Cl.—Class hours. S.P.—Supervised Practice hours.

ARCHITECTURAL DRAFTING

First Year—Trade Level

The purpose of this course is to train draftsmen for architectural and general construction offices. It is not intended to train architects; therefore for the student who wishes to become an architect it is recommended that he take a regular architectural course in the university. The first year is given over largely to practice with the use of drawing instruments and in detailing for building construction, emphasis being placed upon neat lettering and drawings. The class work considers something of the history of architecture, types of construction, and building ordinances. Upon completion of this year the student may be placed as a junior draftsman, tracer, or clerk in a contractor's office.

Hours per week—	Cl.*	S.P.*
Architectural Drafting	5	15
English	5	
Mathematics	5	
Science	3	2
Physical Education	5	
Total		40

Second Year—Trade Level

The second year of the architectural drafting course goes more into the details of construction, types of construction and materials of construction. The student is given practice in working out details of parts of buildings, making sketches and working drawings from the sketches. The class work considers frame buildings, types of joints used and the details used in construction. Considerable study is given to the materials used in construction, their merits and relative costs. Upon completion of this year the student may be placed as junior draftsman, tracer or junior mill detailer.

Hours per week—	Cl.	S.P.
Architectural Drafting	5	15
History	5	
Science	3	2
Physical Education	5	
Total		35

First Year—Technical Level

In the third year of the architectural drafting course much study is given over to the strength of materials and the materials used in construction. More study is given to the state and city building laws and the National Electric Code for electrical work. The student works up complete house drawings including all of the details such as placing plumbing and wiring, window and door details, fireplaces, etc. Upon completion of this year the student may be placed as junior architectural draftsman with a builder or architect.

Hours per week—	Cl.	S.P.
Architectural Drafting	5	18
Science	3	4
Physical Education	5	
Total		35

Second Year—Technical Level

The fourth year in architectural drafting is a continuation of the third year. The student will get more practice in drawing details and complete plans for buildings of different types of construction. The class work takes up the calculation of stresses in the different parts of the buildings and the design of beams and columns. There will also be something in landscape gardening, mapping of grounds and drawing the plots. The student is now ready to enter employment as an architectural draftsman.

Hours per week—	Cl.*	S.P.*
Architectural Drafting	5	18
Science	3	4
Physical Education	5	
Total		35

*Cl.—Class hours. S.P.—Supervised Practice hours.

MECHANICAL DRAFTING

First Year—Trade Level

For the student who enters this course without any previous drafting training the greater part of the first year is consumed in obtaining skill in the use of the drafting instruments and practice in tracing and making the simple projections used in mechanical drafting. Special emphasis is placed upon the neatness of the drawing and the lettering. The class work follows the student's progress in the drafting room and supplies the necessary technical knowledge. Upon completion of the first year the student may enter a drafting room making simple tracings, blueprints and simple alterations to drawings.

Hours per week—	Cl.*	S.P.*
Mechanical Drafting	5	15
Mathematics	5	
English	5	
Science	3	2
Physical Education	5	
Total		40

Second Year—Trade Level

In the second year of the mechanical drafting course the student undertakes simple design problems. Special emphasis is placed on the making of working sketches and making detail drawings from the sketches. In the class, problems of the strength of materials are considered as well as the proper use of materials. Considerable study is given to the properties of the materials used in machine design and to the use of standard parts. Upon completion of this year the student may be placed as a tracer or junior draftsman in the drafting room of a manufacturing plant.

Hours per week—	Cl.*	S.P.*
Mechanical Drafting	5	9
History	5	
Science	3	2
Machine Shop Practice		6
Physical Education	5	
Total		35

First Year—Technical Level

The third year of the mechanical drafting course considers more complex problems of machine design with more class work on the strength of materials and the design of beams and columns. The stresses in the machines being designed are calculated and the proper sizes and types of materials chosen. During this year the student is allowed to specialize along some chosen line of mechanical drafting and wherever possible he is being trained for some particular type of job. Upon completion of this year the student may be placed as junior draftsman.

Hours per week—	Cl.*	S.P.*
Mechanical Drafting	5	18
Science	3	4
Physical Education	5	
Total		35

Second Year—Technical Level

The fourth year of the mechanical drafting course is a continuation of the third year for the student who has specialized and he may be placed in employment any time during the last year. For the student who has not specialized for a particular job it is recommended that he take some work along the line of engineering drawing and mapping. This opens a larger field for employment for he may be placed in a surveyor's office or the highway offices of the State. Placement may be made as draftsman in a drafting office.

Hours per week—	Cl.*	S.P.*
Mechanical Drafting	5	18
Science	3	4
Physical Education	5	
Total		35

*Cl.—Class hours. S.P.—Supervised Practice hours.